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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte COLIN FRANK

Appeal 2009-005211
Application 10/670,577
Technology Center 2600

Decided: January 11, 2010

Before MAHSHID D. SAADAT, KARL D. EASTHOM, and CARL W.
WHITEHEAD, JR., *Administrative Patent Judges*.

EASTHOM, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant appeals¹ under 35 U.S.C. § 134 from the Examiner's Final Rejection of claims 1-5, 10-14, 18-24, 27-30, 33, and 34. The Examiner objected to claims 25, 26, 31, and 32 as allowable (if rewritten in independent form to include limitations in the claims from which they depend).² (*See* Br. 3). We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

Appellant invented a method of allocating orthogonal codes to different antenna beams based on channel quality. (Abstract: Spec. 10: 7-21; 12:10-14.)

Exemplary claim 1 follows:

1. A method for allocating a shared communication channel among a plurality of beams in a communication system comprising a switched beam antenna system, wherein the shared communication channel comprises a plurality of orthogonal codes and wherein the method comprises:

measuring a quality of a propagation channel associated with each beam of the plurality of beams; and

allocating a first portion of the plurality of orthogonal codes to a first beam of the plurality of beams and a second portion of the plurality of orthogonal codes to a second beam of the plurality of beams, wherein the first and second portions are a function of the measured quality of the propagation channels between a base station and mobile stations in the first beam and between the base station and mobile stations in the second beam.

¹ Reference is to Appellant's Brief ("Br.") and the Examiner's Answer ("Ans.").

² Appellant also appeals these objections. Ordinarily, objections are not appealable (though the outcome here may render these objections moot). *See* MPEP § 706.01 ("[T]he Board will not hear or decide issues pertaining to objections and formal matters which are not properly before the Board."); *see also* MPEP § 1201 ("The Board will not ordinarily hear a question that should be decided by the Director on petition . . .").

The Examiner relies on the following prior art reference:

Mesecher US 6,574,271 B2 June 3, 2003

The Examiner rejected claims 1-5, 10-14, 18-24, 27-30, 33, and 34 under 35 U.S.C. § 102(e), based on Mesecher.

ISSUE

Appellant contests (Br. 6-8) the Examiner's finding that Mesecher teaches a method for allocating orthogonal codes in a switched beam antenna system based on the quality of the propagation channels in first and second beams of the switched beam system. Appellant's arguments focus (*id.*) on independent claims 1 and 13, which are similar in scope. Appellant's contention raises the following issue: Did Appellant demonstrate that the Examiner erred in finding that Mesecher discloses "allocating a first portion of the plurality of orthogonal codes to a first beam of the plurality of beams and a second portion of the plurality of orthogonal codes to a second beam of the plurality of beams, wherein the first and second portions are a function of the measured quality of the propagation channels," as set forth in claim 1?

FINDINGS OF FACT (FF)

Mesecher

1. "The invention also provides a technique for adaptive beam steering as illustrated in FIG. 14. Each signal sent by the antenna array will constructively and destructively interfere in a pattern based on the weights provided each antenna 48-52 of the array. As a result, by selecting the appropriate weights, the beam 312-316 of the antenna array is directed in a desired direction." (Col. 6, ll. 1-7.)

Appellant's Specification

2. "In order to double the capacity with a 3 dB increase in SIR [signal-to-interference ratio], it is also necessary to double the number of Walsh codes (more generally, bandwidth.)" (Spec. 12: 10-12.)

PRINCIPLES OF LAW

"[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability." *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). Appellant carries the burden on appeal to show reversible error by the Examiner in maintaining the rejection. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness." (Citation omitted)).

Under § 102, anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994) (citation omitted). "A reference anticipates a claim if it discloses the claimed invention 'such that a skilled artisan could take its teachings in combination with his own knowledge of the particular art and be in possession of the invention.'" *In re Graves*, 69 F.3d 1147, 1152 (Fed. Cir. 1995) (quoting *In re LeGrice*, 301 F.2d 929, 936 (CCPA 1962) (emphasis omitted)).

ANALYSIS

Appellant argues as follows:

Nowhere does Mesecher teach method any [sic] allocation of a shared communication channel among multiple beams, as the adaptive beams taught by Mesecher have a different channel in each beam. *In addition, in an adaptive beam system, the use of channel condition feedback is irrelevant to a scheduling of users and an allocating of bandwidth and, accordingly, nowhere does Mesecher teach any allocation of bandwidth based on channel condition feedback.* Therefore, Mesecher does not teach the features of claim 1 of a method for allocating . . . wherein a first portion of the multiple orthogonal codes is allocated to a first beam of multiple beams and a second portion of the multiple orthogonal codes is allocated to a second beam of the multiple beams and wherein the first and second portions are a function of the measured quality of the propagation channels

(Br. 7-8 (emphasis added).)

Appellant's reference to an allocation of bandwidth based on channel condition feedback implicitly refers to the claim 1 recitation of allocating orthogonal codes based on a measured quality of the channels. (See FF 2; Br. 5-6 (Appellant relies on various sections of the Specification, including the section quoted in FF 2, to support claims 1 and 13).) The Examiner does not address this implied argument; i.e., the particular argument, quoted *supra*, that "nowhere does Mesecher teach any allocation of bandwidth [i.e., "orthogonal codes"] based on channel condition feedback [i.e., "measured signal quality"]". While the Examiner's rejection relies (Ans. 4) on Mesecher at column 6 to teach this allocation of orthogonal codes based on feedback (measured quality), that column does not discuss orthogonal codes, but instead discusses antenna weights. (See FF 1.) The Examiner does not show how the weights described in column 6 of Mesecher are related to the

orthogonal codes recited in claim 1. (*See* Ans. 7-8 (discussing orthogonal codes in Mesecher without mention of any weight relationship)).

Accordingly, Appellant has demonstrated error with respect to claim 1.

As indicated *supra*, claim 13 recites a similar disputed limitation to that discussed with respect to claim 1. The remaining claims on appeal depend from either claim 1 or 13. Therefore, Appellant has demonstrated error in the Examiner's rejection of the claims on appeal.

CONCLUSION

Appellant demonstrated that the Examiner erred in finding that Mesecher discloses "allocating a first portion of the plurality of orthogonal codes to a first beam of the plurality of beams and a second portion of the plurality of orthogonal codes to a second beam of the plurality of beams, wherein the first and second portions are a function of the measured quality of the propagation," as set forth in claim 1.

DECISION

We reverse the Examiner's decision rejecting claims 1-5, 10-14, 18-24, 27-30, 33, and 34.

REVERSED

KMF

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